

DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: LOON LAKE	Lake Area (ha):	45.28
Town: PLYMOUTH	Maximum depth (m):	8.8
County: Grafton	Mean depth (m):	3.9
River Basin: Merrimack	Volume (m ³):	1784500
Latitude: 43°47'44" N	Relative depth:	1.2
Longitude: 71°45'12" W	Shore configuration:	1.09
Elevation (ft): 489	Areal water load (m/yr):	10.18
Shore length (m): 2600	Flushing rate (yr ⁻¹):	2.60
Watershed area (ha): 906.5	P retention coeff.:	0.55
% watershed ponded: 0.0	Lake type:	natural

BIOLOGICAL:

20 January 2000

8 July 1999

DOM. PHYTOPLANKTON (% TOTAL)	#1	UROGLENOPSIS 80%	MALLOMONAS 35%
	#2	SYNURA 15%	ASTERIONELLA 25%
	#3		CHRYSOSPHAERELLA 15%
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)			8.06
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 69%	KERATELLA 24%
	#2	POLYARTHRA 24%	CALANOID COPEPOD 24%
	#3		
ROTIFERS/LITER		50	35
MICROCRUSTACEA/LITER		<1	27
ZOOPLANKTON ABUNDANCE (#/L)		54	94
VASCULAR PLANT ABUNDANCE			Scat/Common
SECCHI DISK TRANSPARENCY (m)			2.7
BOTTOM DISSOLVED OXYGEN (mg/L)		12.3	0.5
BACTERIA (E. coli, #/100 ml)	#1		4
	#2		
	#3		

SUMMER THERMAL STRATIFICATION:

stratified

Depth of thermocline (m):	3.8
Hypolimnion volume (m ³):	156600
Anoxic volume (m ³):	22200

CHEMICAL:

Lake: LOON LAKE

Town: PLYMOUTH

	20 January 2000		8 July 1999		
DEPTH (m)	3.0	6.0	2.0	5.0	7.5
pH (units)	6.4	6.3	6.8	6.3	6.0
A.N.C. (Alkalinity)		2.9	4.2	3.7	4.3
NITRATE NITROGEN	0.08	0.13	< 0.05	< 0.05	< 0.05
TOTAL KJELDAHL NITROGEN	0.16	0.17	0.30	0.30	0.30
TOTAL PHOSPHORUS	0.007	0.007	0.007	0.020	0.019
CONDUCTIVITY (μ mhos/cm)	28.3	28.3	25.2	24.3	26.8
APPARENT COLOR (cpu)	19	19	17	23	33
MAGNESIUM			0.47		
CALCIUM			2.2		
SODIUM			1.7		
POTASSIUM			0.42		
CHLORIDE	< 2	< 2	< 2	< 2	< 2
SULFATE	5	5	3	3	3
TN : TP	34	43	43	15	16
CALCITE SATURATION INDEX			3.5		

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1999

D.O. S.D. PLANT CHL TOTAL CLASS

3	3	2	2	10	Meso.
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COMMENTS:

1. Loon Lake was previously surveyed and classified in 1983 and has been a participant in VLAP since 1989. Chlorophyll has generally been in the 3 to 6 mg/m³ range with a slightly worsening trend; clarity has been relatively stable in the 3 to 5 meter range. The lake has been classified mesotrophic, ranging from low mesotrophic to high mesotrophic.
2. Limited depth soundings were collected. Soundings from a 1978 map were used to help construct the bathymetric map.

Loon Lake

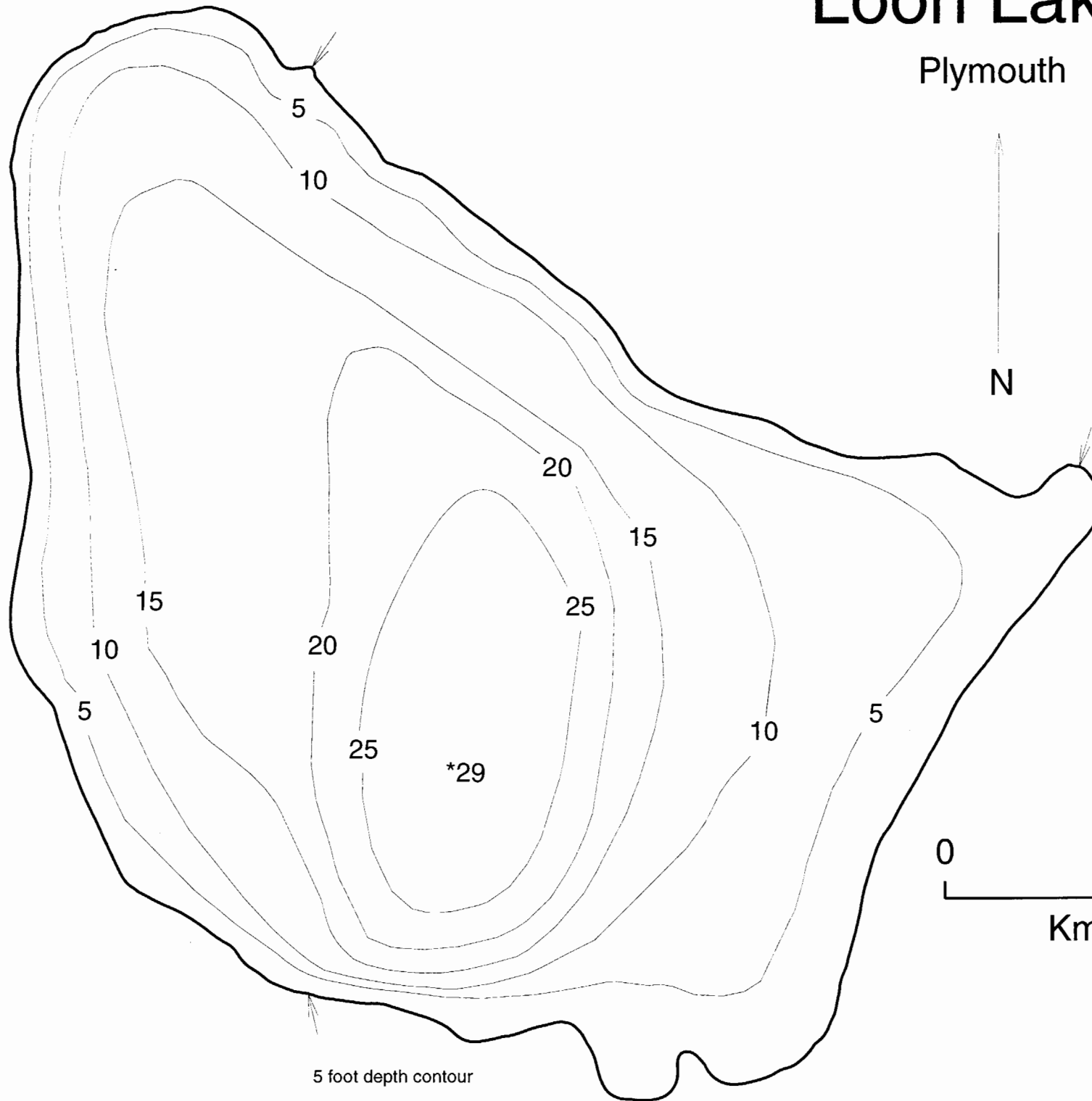
Plymouth

N

0 0.2
Km

5 foot depth contour

III-144



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Loon Lake

Plymouth



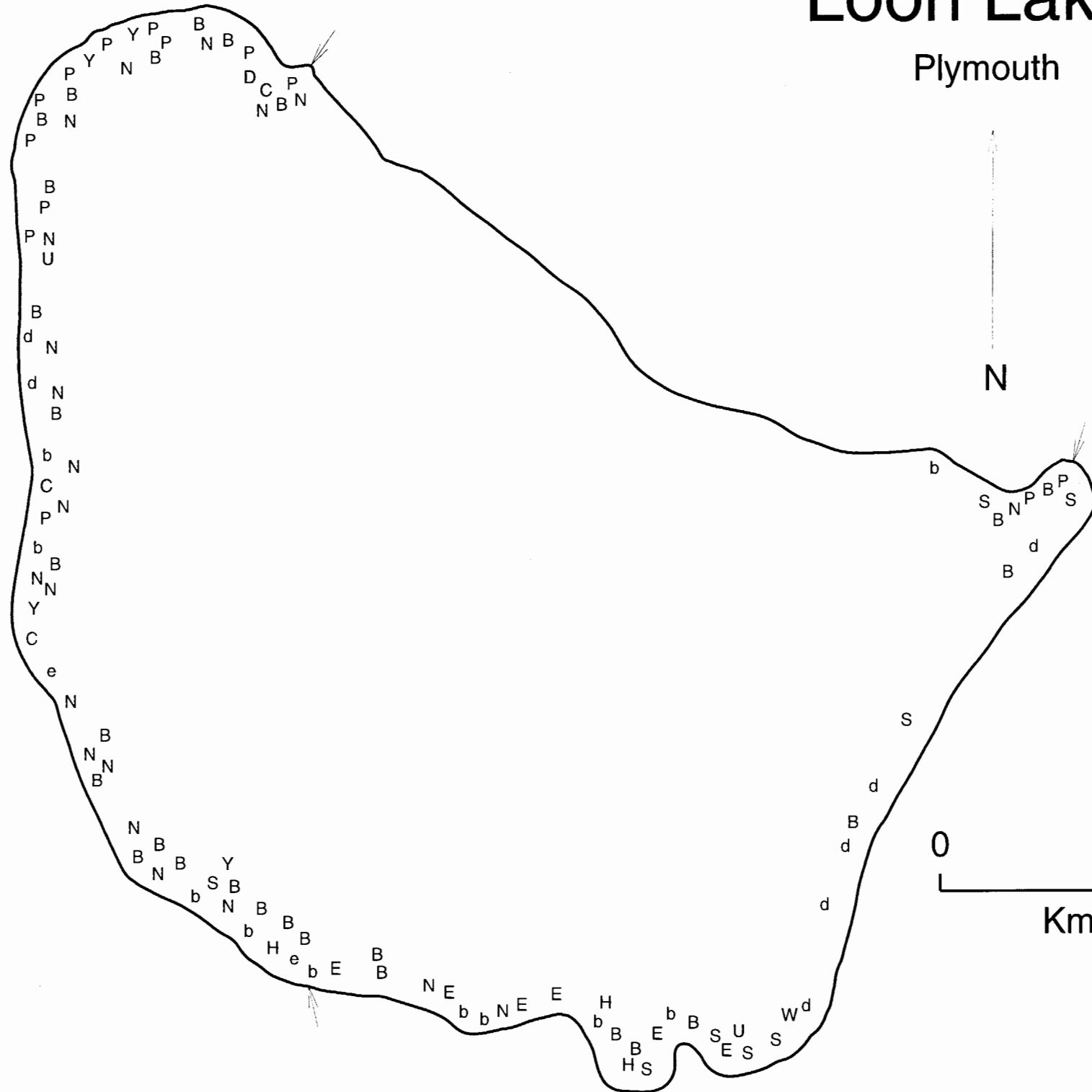
N

0

0.2

Km

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